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10/526,547

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Jyri Hamalainen

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04/29/2008

SQUIRE, SANDERS & DEMPSEY L.L.P.

8000 TOWERS CRESCENT DRIVE

14TH FLOOR

VIENNA, VA 22182-2700

EXAMINER

HERRERA, DIEGO D

ART UNIT

PAPER NUMBER

2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/526,547 | Applicant(s) HAMALAINEN ET AL. | |
| | Examiner DIEGO HERRERA | Art Unit 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Claim 4 is objected to because of the following informalities: parameter does not “includes a frequency band” it “indicates a frequency band”. Appropriate correction is required.

Claims 7 and 15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. For example: wherein the uplink is established in accordance with the transmission parameter used when the base station successfully received the preamble at a first time or a later time than the first time.

Response to Amendment

Abstract has been added; therefore, objection has been withdrawn.

Response to Arguments

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim are 1-5, 7-13, and 15-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Sutskover et al. (US publication 20060025079A1), and in view of Wang et al. (US patent 7013146B2).

Regarding claims 1 and 9. Sutskover et al. discloses a method of initiating a telecommunications uplink from a mobile terminal to a telecommunications network (abstract, title, fig. 1-7, ¶: 19, 22; Sutskover et al. teaches uplink between the base station to the mobile terminal), the mobile terminal having a transmission chain including a baseband stage, a power amplification stage (¶: 19, 33, Sutskover et al. teaches

power transmission scheme) and an antenna (abstract, ¶: 33; Sutskov et al. teaches antenna identifier), the method including the steps of:

transmitting a preamble signal from the mobile terminal at a first time, the preamble signal being transmitted in accordance with a transmission parameter of the mobile terminal (¶: 19, 22, Sutskov et al. teaches preamble signal sent by mobile terminal to base station);

determining whether a base station has successfully received the preamble signal and if so, establishing an uplink to the base station on the basis of the first transmission parameter (¶: 19, 25, Sutskov et al. teaches the preamble is sent before other messages to help the base station with downlink channel assignments);

in the event it is not determined that a base station has successfully received the preamble signal, changing the transmission parameter, and repeating the transmitting of the preamble signal and the determining whether a base station has successfully received the preamble signal at a time later than the first time; however, Wang et al. does not specifically disclose retransmission and power amplification to determine whether the base station has received the preamble from mobile device, nevertheless, Wang et al. teaches the limitation (col. 2 lines: 59—col. 3 lines: 7, col. 5 lines: 30-62; Wang et al. teaches power amplification when transmission has not been detected by base station, hence, power amplification by mobile device to establish uplink with preamble to base station); therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to specifically include power amplification to retransmit preamble from mobile device to base station as taught by

Wang et al. for the purposes of enabling base station to estimate suitable adaptive transmission parameters like an AMC setting (abstract). One of ordinary skill in the art would be motivated to use the AICH to determine if the base station whether or not has received a preamble message from the mobile communication device enabling the mobile device to retransmit preamble to establish RACH with the base station.

wherein the transmission parameter controls one or more of the baseband stage, power amplification stages and the antenna such that changing the transmission parameter results in an alteration of the signal diversity of one or more preambles as received by the base station at the later time (¶: 33, Sutskover et al. teaches control logic sending information to mobile communication devices information about power scheme and response allocation as one of the transmission parameters that can be controlled for sending a preamble from the mobile communication device).

Consider claim 2. The method according to claim 1, the combination discloses wherein the transmission chain includes at least two antennae, and the transmission parameter determines which of the antennae the preamble is transmitted from (abstract, col. 1 lines: 34-63, Wang et al. teaches MIMO devices that select which antennae is to be used to accomplish link adaptation).

Consider claim 3. The method according to claim 2, the combination discloses wherein the preamble is transmitted from only one of the antennae at a time (abstract, col. 1 lines: 34-63, Wang et al. teaches MIMO devices that select which antennae is to be used to accomplish link adaptation).

Consider claim 4. The method according to claim 1, the combination discloses wherein

the transmission parameter includes a frequency band, each preamble being transmitted via the frequency band indicated by the current transmission parameter (§: 22-23, Sutskover et al. teaches the ability to use frequency bins assign by the base station according to the received preamble sent by the subscriber station).

Consider claim 5. The method according to claim 1, the combination discloses wherein the transmission chain includes a plurality of antennae in an antenna array (abstract, col. 1 lines: 34-63, Wang et al. teaches MIMO devices that select which antennae is to be used to accomplish link adaptation), and directionality of a beam formed by signals transmitted from the array is selected for each preamble transmission based on the transmission parameter (§: 23, Sutskover et al. teaches zero forcing beam-forming technique which allows the subscriber to see only the signal assigned to it and not signals assigned to other subscribers).

Consider claims 6 and 14. A method according to claims 5 and 13, the combination discloses wherein the transmission chain includes a phase shifting means for shifting the phase of the signals supplied to the individual antennae in the antenna array, the phase shifters being controllable on the basis of the transmission parameter (§: 25, Sutskover et al. teaches different types of phase shifting, e.g. BPSK, QPSK, etc...).

Consider claim 8. The method according to claim 1, the combination discloses wherein the transmission parameter includes a power level at which each preamble is transmitted, the power level being increased between at least some sequentially adjacent preamble transmissions (col. 1 lines: 30-34, col. 2 lines: 59--col. 3 lines: 7, Wang et al. teaches that it is well known in the art to increment the power level of signal

from the preamble of the mobile subscriber's communication device after it has failed to establish a connection with base station; furthermore, Wang et al. teaches power ramp step of for example 1 dB).

Consider claim 10. The mobile telecommunications terminal according to claim 9, the combination discloses wherein the transmission chain includes at least two antennae (col. 1 lines: 48-50, Wang et al. teaches multiple input and multiple output antenna processing), and the transmission parameter determines which of the antennae the preamble is transmitted from (abstract, col. 1 lines: 34-63, Wang et al. teaches MIMO devices that select which antennae is to be used to accomplish link adaptation).

Consider claim 11. The mobile telecommunications terminal according to claim 10, the combination discloses wherein the preamble is transmitted from only one of the antennae at a time (abstract, col. 1 lines: 34-63, Wang et al. teaches MIMO devices that select which antennae is to be used to accomplish link adaptation).

Consider claim 12. The mobile telecommunications terminal according to claim 9, the combination discloses wherein the transmission parameter includes a frequency band, each preamble being transmitted via the frequency band indicated by the current transmission parameter ((¶: 22-23, Sutskov et al. teaches the ability to use frequency bins assign by the base station according to the received preamble sent by the subscriber station).

Consider claim 13. The mobile telecommunications terminal according to claim 9, the combination discloses wherein the transmission chain includes a plurality of antennae in an antenna array, and directionality of a beam formed by signals transmitted from the

array is selected for each preamble transmission based on the transmission parameter (abstract, col. 1 lines: 34-63, Wang et al. teaches MIMO devices that select which antennae is to be used to accomplish link adaptation).

Consider claim 16. The mobile telecommunications terminal according to claim 9, the combination discloses wherein the transmission parameter includes a power level at which each preamble is transmitted, the power level being increased between at least some sequentially adjacent preamble transmissions (col. 1 lines: 30-34, col. 2 lines: 59--col. 3 lines: 7, Wang et al. teaches that it is well known in the art to increment the power level of signal from the preamble of the mobile subscriber's communication device after it has failed to establish a connection with base station; furthermore, Wang et al. teaches power ramp step of for example 1 dB).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIEGO HERRERA whose telephone number is (571)272-0907. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Diego Herrera
Patent Examiner

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617